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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/994,114

11/26/2001

Michael Griebel

MMG-110

8274

42419 7590 05/05/2008  
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EXAMINER

CHANDLER, SARA M

ART UNIT

PAPER NUMBER

3693

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/994,114	<b>Applicant(s)</b> GRIEBEL ET AL.	
	<b>Examiner</b> SARA CHANDLER	<b>Art Unit</b> 3693	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

This Office Action is responsive to Applicant's arguments and request for continued examination of application 09/994,114 (11/26/01) filed on 12/26/07 and the supplemental response filed 03/07/08.

### ***Claim Interpretation***

1. In determining patentability of an invention over the prior art, all claim limitations have been considered and interpreted as broadly as their terms reasonably allow. See MPEP § 2111.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Pruter*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). See MPEP § 2111.

2. All claim limitations have been considered. Additionally, all words in the claims have been considered in judging the patentability of the claims against the prior art. See MPEP 2106 II C. The following language is interpreted as not further limiting the scope of the claimed invention. See MPEP § 2106 II C.

Language in a method claim that states only the intended use or intended result (e.g., "for \_\_\_\_\_"), but the expression does not result in a manipulative difference in the steps of the claim. Language in a system claim that states only the intended use or intended result (e.g., "for \_\_\_\_\_"), but does not result in a

structural difference between the claimed invention and the prior art. In other words, if the prior art structure is capable of performing the intended use, then it meets the claim.

Claim limitations that contain statement(s) such as “*if, may, might, can could*”, as optional language. As matter of linguistic precision, optional claim elements do not narrow claim limitations, since they can always be omitted.

Claim limitations that contain statement(s) such as “*wherein, whereby*”, that fail to further define the steps or acts to be performed in method claims or the discrete physical structure required of system claims.

USPTO personnel should begin claim analysis by identifying and evaluating each claim limitation. For processes, the claim limitations will define steps or acts to be performed. For products, the claim limitations will define discrete physical structures or materials. Product claims are claims that are directed to either machines, manufactures or compositions of matter. See MPEP § 2106 II C.

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- (A) statements of intended use or field of use,
- (B) “adapted to” or “adapted for” clauses,
- (C) “wherein” clauses, or
- (D) “whereby” clauses.

See MPEP § 2106 II C.

3. Independent claims are examined together, since they are not patentable distinct. If applicant expressly states on the record that two or more independent and distinct

inventions are claimed in a single application, the Examiner may require the applicant to elect an invention to which the claims will be restricted.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 2-21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, omitting essential steps and/or omitting essential structural cooperative relationships of elements such omission amounting to a gap between the elements, the steps and/or the necessary structural connections. See MPEP § 2172.01. The omitted elements, steps and/or structural cooperative relationships are:

- The process does not relate to an option. The claimed invention states that it receives a plurality of inputs of the option and outputs the value of the option however, none of the intermediate steps correlate to an option.
- The claimed invention should correlate the mathematical terms to the parameters of a financial option. How are the parameters of the option altered?
- Clarify the interrelationship between each step in the process.

- Several claim terms are abstract. Please define terms. What is the significance of the terms with respect to the option (e.g., expectation)?

Claim 21 recites: A method for valuation of financial options by a data processor, wherein a value of an option is computed by a determination of an expectation by the data processor, the method comprising:

receiving a plurality of input parameters of the option **[The claim does not specify how the input parameters of the option correlate to the subsequent process steps.];**

constructing a multivariate integrand **[What does the multivariate integrand represent in terms of the financial option?]** as a function of the input parameters; determining a multivariate integration domain **[What does the multivariate integration domain represent in terms of the financial option?]** by computing discontinuities of the multivariate integrand;

applying a sparse grid method **[Merely stating “a sparse grid method” is abstract and indefinite. What sparse grid method? Also the claim does not specify what the “sparse grid method is actually applied to.]** to determine a plurality of integration points inside the multivariate integration domain and a plurality of integration weights **["to determine a plurality of integration points....." is presently recited as an intended result, outcome. Should this be a separate step “determining a plurality of integration points.....” What do the integration points, integration weights represent in terms of the financial option? ;**

evaluating an integrand **[“integrand” is indefinite. Please define what is referred to. What does the integrand represent in terms of the financial option?]** at each of the

integration points to determine a plurality of integrand values **["to determine a plurality of integration values....." is presently recited as an intended result, outcome.];** computing an expectation **[ "expectation" is abstract, indefinite. Please define what is referred to.]** by combining the integrand values and the integration weights and determining a value of the option from the expectation **[Should "determining a value....." be a separate step?];** and outputting the value of the option **[The claim does not specify how the input parameters of the option correlate to the preceding process steps.].**

NOTE: Similar suggestions are made for claim 12 accounting for alterations due to different statutory classes. Also, please indicate where support can be found in the specification for any claim amendments to help avoid the issue of "new matter" in the next office action.

Dependent claims are further rejected based on the same rationale as the claims from which they depend.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARA CHANDLER whose telephone number is (571)272-1186. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Kramer can be reached on 571-272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SMC

/JAGDISH N PATEL/

Primary Examiner, Art Unit 3693